

## **ABSTRACT**

### **MULTI-VALVE INJECTION/ASPIRATION MANIFOLD WITH NAC**

An IV manifold includes a plurality of injection/aspiration ports including a needleless access port (NAC). A check valve included in the manifold is generally located at an upstream end of the manifold. However, the check valve may alternatively be located between injection ports. An aspiration port can be formed with a second seal disposed on the side of the valve element opposite a first seal. Two-way aspiration can be provided by a valve having a cage with or without compressible characteristics to accommodate low tolerance fittings. Alternatively, two way aspiration can be provided by the NAC having a single elongate valve element including a plug at one end. The elongate valve element has properties for resiliently and sealingly biasing the plug into an aperture of the NAC. In use the Plug is mechanically displaced by insertion of a male Luer for injection or aspiration.